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RECENT RECORDS OF RIBBON-FISHES FROM FLORIDA

On March 20, 1920, a perfect specimen of what was undoubtedly *Regalecus* Brunnich was stranded on the beach at Long Key, Manatee County, Florida. It was found by Mrs. Estelle Tillman of Portland, Oregon, who fortunately is a woman of exceptional powers of observation. The fish was found in the water at the edge of the surf, "hardly dead."

Mrs. Tillman recently called at the Bureau of Fisheries, Washington, identified an illustration as being essentially the same as her find, and presented to the Bureau a photograph of the specimen, taken after it had suffered some mutilation. The following description is compiled from Mrs. Tillman's statements and the photograph.

Total length, 7 feet. Depth, about 19, and head about 15 in total length. Eight produced dorsal rays, the longest about 16 inches, with *no connecting membrane* at base; quill-like at base, tapering and becoming flexible toward the tip, with frond-like membrane posteriorly, "like ribbon kelp." The remainder of dorsal composed of soft rays, their length about 2 in depth of body. Anal rays very short. Pectorals wanting (according to Mrs. Tillman, but traces of small pectoral seem to show in the photograph). Ventrals composed of a single ray, 18 inches long, stiff, quill-like, with membrane 1/4 to 1/2 inches wide

on posterior side of ray, and a leaf-like dilation of membrane 3 inches long and 2 inches wide at tip. Eye large, 3½ in depth of body.

Color: Body "lazuli blue, sparkling like diamonds, lighter on under parts." A number of jet black, irregular streaks and splotches on anterior half of body. Produced dorsal rays blotched with bright red, crimson, burnt-orange and blue. Remainder of dorsal white and translucent, "like thin white silk." Ventrals blotched in similar fashion, the dilated tip with a large ocellated spot of dark blue, "like a peacock feather," blending with many colors toward the edges. A band of black, ¼ inch wide, around eye.

The writer has examined the dried dorsal and ventral rays of this specimen and these confirm Mrs. Tillman's description in every particular. Unfortunately, nothing but these fin-rays were preserved.

The second record of a fish belonging to this group was contained in a letter to the Bureau of Fisheries dated April 20, 1920, from Dr. J. Hines Moore of Macon, Ga. With the letter were three very poor snapshots of a fish which Dr. Moore had recently found on the beach, 35 miles south from Palm Beach, Fla. The identity of this specimen is doubtful. It may possibly have been a mutilated *Regalecus*, but many characters would tend to throw it toward the genus *Trachypterus* Gouan. The following data were gleaned from Dr. Moore's letter and photographs:

Total length, 7 feet, 4 inches, body tapering to a point; depth 6 inches; thickness 2½ inches, head 12 to 13 in total length. Dorsal apparently all low, with no produced rays, uniform to and confluent with, the rudimentary caudal. No anal (apparently). Pectoral small, equal to width of eye. Ventrals "fin-like spines," about equal to width of eye. Eye very large, 4 in head, pupil horizontal. Mouth parts and shape of head as in illustrations of *Trachypterus*. No scales. Skin wrinkled and "mottley." "Gills (branchiostegals?) prominent, 2 or 3 to a side.' No color de-

scribed. Further particulars were requested of Dr. Moore, but no reply has been received.

Fish of this group, though seldom taken, are probably not uncommon in the waters about Florida, as several eggs with well developed embryos, and at least one larval example, have been taken in tow-nets by vessels of the Bureau of Fisheries.

W. W. WELSH,
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NOTES ON THE RAYS OF CALIFORNIA

Raja inornata Jordan and Gilbert. As a supplement to Dr. Gilbert's[1] interesting account of the development of the spines forming the mediodorsal series in this species, it may be noted that this series of spines is uninterrupted in several postembryonic specimens from the San Francisco market, varying in total length from 145 to 265 mm. In other specimens of the same lot, 175 to 405 mm. long, the series is incomplete, a varying number of spines having become suppressed between the three (2 to 4) differentiated anterior spines and the front of the anterior pelvic lobe.

Raja binoculata Girard. The very young of this species have but a single anterior spine in the mediodorsal series.

A large specimen of *Raja binoculata* has been secured by the Scripps Institution for Biological Research at the southernmost record-station for the species—in about fifteen feet of water off the La Jolla Caves, southern California. The most southern previous record-stations are in San Luis, Obispo County.[2]

Raja montereyensis Gilbert.[3] A male specimen of this recently named species, intermediate in size between the one described by Starks and the type, was caught by Mr. Percy Barnhart from the pier of the Scripps Institution for Biological Research, San Diego County, California. It agrees with the published

descriptions in details of coloration and outline, but differs in having a continuous row of rather coarse spines around the upper margin of the eye.

Heretofore the species has been known only from Monterey Bay.

Urobatis halleri (Cooper).[1] Rays doubtless of this species, colored much like the sand spit on which they were lying, were observed at the mouth of the estero at Goleta, California. This record slightly extends the known range of the species beyond Santa Barbara.

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[1] Proc. U. S. Nat. Mus., 48, 1915, p. 306.
[2] Hubbs, *Copeia*, No. 37, 1916, p. 87.
[3] *Raja montereyensis* Gilbert, Proc. U. S. Nat. Mus., 48, 1915, p. 307, pl. 14, fig. 1; Starks, Copeia, No. 52, 1918, p. 2; Cal. Fish and Game, 4, 1918, p. 10, fig. 12.
[4] *Urolophus halleri* Jordan and Evermann, Bull. U. S. Nat. Mus., 47, Pt. 1, 1896, p. 80. *Urobatis halleri* Garman, Mem. Mus. Comp. Zool., 36, 1913, p. 403.

REPTILES AND AMPHIBIANS COLLECTED IN NORTHERN MISSISSIPPI IN 1919

A collection of amphibians and reptiles made in the vicinity of the University of Mississippi, LaFayette County, Mississippi, has recently been received by the Museum of Zoology, University of Michigan. The specimens were taken at various times between March 3, 1919, and June, 1919, by Professor H. A. Dennee, who was at that time professor of Zoology in the University of Mississippi, with the assistance of others, principally Messrs. Robert and Calvin Brown. LaFayette County is in the northern part of the state.

LIST OF SPECIES

Ambystoma opacum (Gravenhorst), 2 specimens; *Plethodon glutinosus* (Green), ten specimens; *Eurycea guttolineata* (Holbrook), thirteen specimens; *Eurycea rubra rubra* (Sonnini), two specimens; *Bufo terrestris* Bonnaterre, one specimen; *Gastrophryne carolinensis* (Holbrook), one specimen; *Anolis caro-*

linensis Voigt, one specimen; *Sceloporus undulatus* Latreille, twenty-four specimens; *Ophisaurus ventralis* (Linn.), one specimen; *Cnemidophorus sexlineatus* (Linn.), two specimens; *Plestiodon fasciatus* (Linn.), eleven specimens; *Heterodon contortrix* (Linn.), four specimens; *Opheodrys aestivas* (Linn.), two specimens; *Coluber constrictor constrictor* (Linn.), four specimens; *Elaphe guttata* (Linn.), three specimens; *Lampropeltis calligaster* Say, one specimen; *Lampropeltis getulus* (Linn.), one specimen; *Natrix sipedon fasciata* (Linn.), two specimens; *Virginia elegans* Kennicott, one specimen; *Chelydra serpentina* (Linn.), two specimens; *Terrapene carolina triunguis* (Agassiz), one specimen; *Terrapene major* (Agassiz), one specimen.

DOREEN POTTER,
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SCAPHIOPUS IN NORTHERN NEVADA

In the region of Pyramid Lake, Nevada, toads of the genus *Scaphiopus* seem to appear regularly each spring for breeding. I observed them there in 1911, 1912, and again in 1913. They were first seen April 23 to 25, and they were laying eggs May 28 to June 2.

Their appearance was at once announced by a loud chorus which differed markedly from that of *Hyla* or *Rana*, being in a lower key, somewhat guttural, and a little rasping. It was entirely different from that of *Bufo*.

They collected in considerable numbers in the quiet water of irrigating ditches and in little ponds, where at night they sprawled out motionless in the water, their bright eyes projecting just above the surface. When once found they were easily caught, and when placed on the ground they proved to be very slow and awkward little creatures, exhibiting haste only when given an opportunity to sink into the desert sand.

Their color was yellowish olive above, spotted with darker olive, belly soiled white, chin darker, sides of

front legs and feet gray, the hind legs tinted on the under surface with blood red. The eye was large and very brilliant, the iris brassy with fine black reticulations. The pupil was very sensitive to light. There were two broad, grayish stripes on the back, and one on each side of the body. The glands were usually darker than the surrounding skin and in some examples scattered glands bore brick red caps, which with darker rings appeared as ocelli. Some specimens were lighter than others, and an occasional one had a strong infusion of pale reddish brown.

On the evening of June 2, 1911, I happened upon a small pond separated from the water of Pyramid Lake by a narrow bar. The pond was but a few feet in width, and perhaps a hundred feet long. The water was clear and slightly alkaline like that of the lake. In it were hundreds of spadefoots depositing their eggs in masses one layer deep on the upper surfaces of small rocks. The eggs were not piled up after the manner of frogs, nor were they in strings like those of toads. One mass presented fresh eggs and likewise others in which development was marked, plainly indicating that the mass was made of at least two contributions.

During the following night a continued croaking chorus was at times plainly heard, but it ceased at dawn, and shortly after break of day all the toads had disappeared and they returned no more. Diligent search under rocks and in the sand nearby was not rewarded by a single specimen.

J. O. Snyder,
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Bufo fowleri IN LOUISIANA AND TEXAS

At the third meeting of the American Society of Ichthyologists and Herpetologists I reported the presence of *Bufo fowleri* in Louisiana (*Copeia*, No. 53, p. 13, 1918). Six specimens collected at Creston, Natchitoches Parish, in northwestern Louisiana, in

the spring of 1915, are in the Museum of Vertebrate Zoology of Cornell University. The voice was identical with that of *Bufo fowleri* of the Atlantic Coastal Plain.

Beyer (1900, Proc. La. Soc. Nat., 1897-1899, Appendix I, p. 11) records *Bufo lentiginosus americanus* as common in Louisiana, and Strecker identifies the common toad of the wooded area of eastern Texas under the same name (1915, Baylor Bull., XVIII, No. 4, p. 53). There can be no doubt that the species referred to is really *Bufo fowleri*.

B. fowleri, therefore, is the dominant *Bufo* on the Atlantic and Gulf Coastal Plain, extending as far west as the open plains of Texas. In the central states its distribution appears to be much more local.

The ecological and seasonal relations of *Bufo fowleri* and *Bufo terrestris* offer an interesting subject for observation.

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Crotalus horridus RATTLES FOR HALF HOUR

For five days a *Crotalus horridus*, just captured in the Ramapo Hills of New York and kept in a glass cage, exhibited a tendency to rattle whenever disturbed and to continue the rattling until left by himself.

Believing that the rattling always was a warning, I placed the cage on a table to see how long the reptile would continue to agitate his tail.

For fifteen minutes he held his head tensely, as though ready to strike. Except for momentary pauses the rattling continued steadily. I moved from side to side and the snake followed my movements with his eyes.

Then slowly he relaxed and began rubbing his nose against the glass, with characteristic tongue movements. All evidences of fear or nervousness disappeared, but the rattling continued.

For another fifteen minutes I watched him, placing my hand upon the glass near his head and making various slow movements. He observed them without show of alarm and I thought he exhibited some curiosity. The rattling continued steadily except for a few very short pauses. Then I put him away in a dark cover and he stopped.

The snake was about thirty inches long and had six rattles.

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